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10/693,958	10/28/2003	Hayato Nakanishi	117528	4567

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EXAMINER	
BODDIE, WILLIAM	
ART UNIT	**PAPER NUMBER**
2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/693,958	NAKANISHI, HAYATO	
	Examiner	Art Unit	
	WILLIAM L. BODDIE	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9,11-13,15 and 17-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9,11-13,15 and 17-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In an amendment dated, October 30th, 2007, the Applicant amended claims 1-3, 5-6, added new claims 18-22 and cancelled claim 10. Currently claims 1-7, 9, 11-13, 15 and 17-22 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-7, 9, 11-13, 15 and 17-22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3-7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enami et al. (US 5,892,493) in view of LeChevalier-130 (US 7,079,130) and further in view of Tobita et al. (US 7,006,067).

With respect to claim 1, Enami discloses, an electro-optical device (fig. 1), comprising:

a plurality of scanning lines (G1-Gn in fig. 1);

a plurality of data lines (d1A-dnD in fig. 1);

a plurality of pixel circuits (24, 18 in fig. 1) including a plurality of electro-optical elements (18 in fig. 1) provided to correspond to intersections of the plurality of scanning lines and the plurality of data lines;

a data line driving circuit (40 in fig. 1) to supply a data voltage through the data line to each of the pixel circuits (col. 8, lines 48-60);

first switches (42 in fig. 1) that are part of a precharge circuit (42-46 in fig. 1) to control the supply of a precharge signal ($\pm V_1$ in fig. 1) from a precharge signal supply line (output line from switch 46 in fig. 1) connected to at least one data line of the plurality of data lines (clear from fig. 1), to the at least one data line, the precharge signal being less than a data voltage (col. 8, lines 24-33).

Enami does not expressly disclose a second set of switches for output of a detection signal to test lines, or a data line selection circuit that sets the state of the switches.

LeChevalier-130 discloses, a pre-charging display device (fig. 3) comprising: second switches (412, 420, 414 in fig. 4) connected to at least one data line (358 in fig. 1) of a plurality of data lines (358, 368 etc. in fig. 3) to control the output of a detection signal (col. 9, lines 49-58; col. 8, lines 4-9) from the at least one data line to test lines (410, for example in fig. 4; each line connected to each column's switch); and

a data line selection circuit (428, 432 in fig. 4) to set the on or off state of switches that control the output of the detection signal (col. 9, lines 38-49);

the detection signal being used for testing whether a sufficient data voltage has been written in the pixel circuits (col. 14, line 55 – col. 15, line 11).

LeChevalier-130 and Enami are analogous art because they are both from the same field of endeavor namely precharging control circuitry for flat panel displays.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the detection circuitry of LeChevalier-130 in the display device of Enami.

The motivation for doing so would have been for power conservation and appropriate precharge voltage application (LeChevalier-130; col. 4, lines 9-18).

Neither LeChevalier-130 nor Enami expressly disclose, wherein the test lines are shared with a precharge signal supply line.

Tobita discloses, wherein test lines (CL and CR in fig. 2) are shared with a precharge signal supply line (CL and CR in fig. 2) to form a shared line (CL and CR in fig. 2) that extends at least from a connection with the at least one data line at the first and second switches (IG1 in fig. 2) along one line toward a precharge signal-generating circuit (PEQ in fig. 2) and an output of the detection signal (SA in fig. 8).

Tobita, LeChevalier-130 and Enami are analogous art because they are both from the same field of endeavor namely precharging control circuitry for flat panel displays.

At the time of the invention it would have been obvious to one of ordinary skill in the art to wire the circuitry of LeChevalier-130 and Enami as taught by Tobita.

The motivation for doing so would have been for the well-known benefit of reducing the amount of wiring thereby lessening manufacturing costs as well as simplifying circuitry.

With respect to claim 3, Enami discloses, an electro-optical device (fig. 1), comprising:

a plurality of scanning lines (G1-Gn in fig. 1);

a plurality of data lines (d1A-dnD in fig. 1);

a plurality of pixel circuits (24, 18 in fig. 1) including a plurality of electro-optical elements (18 in fig. 1) provided to correspond to intersections of the plurality of scanning lines and the plurality of data lines;

at least two precharge lines (lines output from switch 46 in fig. 1; there is clearly one for each data line) to supply precharge signals ($\pm V_1$ in fig .3) to at least two data lines of the plurality of data lines;

a data line driving circuit (40 in fig. 1) to supply a data voltage through the data line to each of the pixel circuits (col. 8, lines 48-60);

first switches (42 in fig. 1) that are part of a precharge circuit (42-46 in fig. 1) to control the output of the precharge signal ($\pm V_1$ in fig. 1) from the at least two precharge lines to the at least two data lines (clear from fig. 1), each precharge signal being less than a data voltage (col. 8, lines 24-33).

Enami does not expressly disclose a second set of switches for output of a detection signal.

LeChevalier-130 discloses, a pre-charging display device (fig. 3) comprising: second switches (412, 420, 414 in fig. 4) connected to at least one data line (358 in fig. 1) of a plurality of data lines (358, 368 etc. in fig. 3) to control the output of a detection signal (col. 9, lines 49-58; col. 8, lines 4-9) from the at least one data line to test lines (410, for example in fig. 4); and

a data line selection circuit (428, 432 in fig. 4) to set the on or off state of switches that control the output of the detection signal (col. 9, lines 38-49);

the detection signal being used for testing whether a sufficient data voltage has been written in the pixel circuits (col. 14, line 55 – col. 15, line 11).

LeChevalier-130 and Enami are analogous art because they are both from the same field of endeavor namely precharging control circuitry for flat panel displays.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the detection circuitry of LeChevalier-130 in the display device of Enami.

The motivation for doing so would have been for power conservation and appropriate precharge voltage application (LeChevalier-130; col. 4, lines 9-18).

Neither LeChevalier-130 nor Enami expressly disclose, wherein the test lines are shared with a precharge signal supply line.

Tobita discloses, wherein test lines (CL and CR in fig. 2) are shared with a precharge signal supply line (CL and CR in fig. 2) to form a shared line (CL and CR in fig. 2) that extends at least from a connection with the at least one data line at the first and second switches (IG1 in fig. 2) along one line toward a precharge signal-generating circuit (PEQ in fig. 2) and an output of the detection signal (SA in fig. 8).

Tobita, LeChevalier-130 and Enami are analogous art because they are both from the same field of endeavor namely precharging control circuitry for flat panel displays.

At the time of the invention it would have been obvious to one of ordinary skill in the art to wire the circuitry of LeChevalier-130 and Enami as taught by Tobita.

The motivation for doing so would have been to the well-known benefit of reducing the amount of wiring thereby lessening manufacturing costs as well as simplifying circuitry.

With respect to claim 4, Enami, Tobita and LeChevalier-130 disclose, an electro-optical device according to claim 3 (see above).

Enami as modified by LeChevalier-130 and Tobita discloses, a data line selection circuit (428, 432 in fig. 4) to control precharge signals output from the at least 2 data lines to the test lines by sequentially operating the 2nd switches (LeChevalier-130; col. 3, lines 48-51).

With respect to claim 5, Enami discloses, a method of driving an electro-optical device (col. 1, lines 7-9), including:

a plurality of scanning lines (G1-Gn in fig. 1);

a plurality of data lines wired to intersect the scanning lines (d1A-dnD in fig. 1);

a plurality of pixel circuits (24, 18 in fig. 1) including electronic circuits provided to correspond to intersections of the scanning lines and the data lines (18, 24 in fig. 1);

a data line driving circuit (40 in fig. 1) to supply a data voltage through the data line to each of the pixel circuits (col. 8, lines 48-60);

first switches (42 in fig. 1) that are part of a precharge circuit (42-46 in fig. 1) to control the supply of a precharge signal ($\pm V_1$ in fig. 1) from a precharge signal supply line (output line from switch 46 in fig. 1) connected to at least one data line of the

plurality of data lines (clear from fig. 1) to the at least one data line, the precharge signal being less than a data voltage (col. 8, lines 24-33),

supplying a precharge signal from a precharge signal supply line to the data lines through the first switches when one of the plurality of scanning lines is selected (col. 9, lines 43-52); and

supplying data signals to electronic circuits connected to the selected scanning line through the data lines (col. 8, lines 48-60).

Enami does not expressly disclose a second set of switches for output of a detection signal, or outputting data signals supplied to the data lines as detection signals to test lines.

LeChevalier-130 discloses, a pre-charging display device (fig. 3) comprising: second switches (412, 420, 414 in fig. 4) connected to at least one data line (358 in fig. 1) of a plurality of data lines (358, 368 etc. in fig. 3) to control the output of a detection signal (col. 9, lines 49-58; col. 8, lines 4-9) from the at least one data line to test lines (410, for example in fig. 4); and

a data line selection circuit (428, 432 in fig. 4) to set the on or off state of switches that control the output of the detection signal (col. 9, lines 38-49);

the detection signal being used for testing whether a sufficient data voltage has been written in the pixel circuits (col. 14, line 55 – col. 15, line 11);

outputting data signals supplied to the data lines as detection signals to test lines through the second switches (col. 7, lines 58-67); and

using the detection signal for testing whether a sufficient data voltage has been written in the pixel circuit (col. 14, line 55 – col. 15, line 11).

LeChevalier-130 and Enami are analogous art because they are both from the same field of endeavor namely precharging control circuitry for flat panel displays.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the detection circuitry of LeChevalier-130 in the display device of Enami.

The motivation for doing so would have been for power conservation and appropriate precharge voltage application (LeChevalier-130; col. 4, lines 9-18).

Neither LeChevalier-130 nor Enami expressly disclose, wherein the test lines are shared with a precharge signal supply line.

Tobita discloses, wherein test lines (CL and CR in fig. 2) are shared with a precharge signal supply line (CL and CR in fig. 2) to form a shared line (CL and CR in fig. 2) that extends at least from a connection with the at least one data line at the first and second switches (IG1 in fig. 2) along one line toward a precharge signal-generating circuit (PEQ in fig. 2) and an output of the detection signal (SA in fig. 8).

Tobita, LeChevalier-130 and Enami are analogous art because they are both from the same field of endeavor namely precharging control circuitry for flat panel displays.

At the time of the invention it would have been obvious to one of ordinary skill in the art to wire the circuitry of LeChevalier-130 and Enami as taught by Tobita.

The motivation for doing so would have been to the well-known benefit of reducing the amount of wiring thereby lessening manufacturing costs as well as simplifying circuitry.

With respect to claim 6, Enami discloses, a method of driving an electro-optical device (col. 1, lines 7-9), including:

a plurality of scanning lines (G1-Gn in fig. 1);

a plurality of data lines wired to intersect the scanning lines (d1A-dnD in fig. 1);

a plurality of pixel circuits (24, 18 in fig. 1) including electronic circuits provided to correspond to intersections of the scanning lines and the data lines (18, 24 in fig. 1);

at least two precharge lines (lines output from switch 46 in fig. 1; there is clearly one for each data line) to supply precharge signals ($\pm V_1$ in fig. 1) to at least two data lines of the plurality of data lines;

a data line driving circuit (40 in fig. 1) to supply a data voltage through the data line to each of the pixel circuits (col. 8, lines 48-60);

first switches (42 in fig. 1)) that are part of a precharge circuit (42-46 in fig. 1) to control the supply of a precharge signal ($\pm V_1$ in fig. 1) from a precharge signal supply line (output line from switch 46 in fig. 1) connected to at least one data line of the plurality of data lines (clear from fig. 1), the precharge signal being less than a data voltage (col. 8, lines 24-33),

supplying a precharge signal from a precharge signal supply line to the data lines through the first switches when one of the plurality of scanning lines is selected (col. 9, lines 43-52); and

supplying data signals to electronic circuits connected to the selected scanning line through the data lines (col. 8, lines 48-60).

Enami does not expressly disclose a second set of switches for output of a detection signal, or outputting data signals supplied to the data lines as detection signals to test lines.

LeChevalier-130 discloses, a pre-charging display device (fig. 3) comprising: second switches (412, 420, 414 in fig. 4) connected to at least one data line (358 in fig. 1) of a plurality of data lines (358, 368 etc. in fig. 3) to control the output of a detection signal (col. 9, lines 49-58; col. 8, lines 4-9) from the at least one data line to test lines (410, for example in fig. 4); and

a data line selection circuit (428, 432 in fig. 4) to set the on or off state of switches that control the output of the detection signal (col. 9, lines 38-49);

the detection signal being used for testing whether a sufficient data voltage has been written in the pixel circuits (col. 14, line 55 – col. 15, line 11);

outputting data signals supplied to the data lines as detection signals to test lines through the second switches (col. 7, lines 58-67); and

using the detection signal for testing whether a sufficient data voltage has been written in the pixel circuit (col. 14, line 55 – col. 15, line 11).

LeChevalier-130 and Enami are analogous art because they are both from the same field of endeavor namely precharging control circuitry for flat panel displays.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the detection circuitry of LeChevalier-130 in the display device of Enami.

The motivation for doing so would have been for power conservation and appropriate precharge voltage application (LeChevalier-130; col. 4, lines 9-18).

Neither LeChevalier-130 nor Enami expressly disclose, wherein the test lines are shared with a precharge signal supply line.

Tobita discloses, wherein test lines (CL and CR in fig. 2) are shared with a precharge signal supply line (CL and CR in fig. 2) to form a shared line (CL and CR in fig. 2) that extends at least from a connection with the at least one data line at the first and second switches (IG1 in fig. 2) along one line toward a precharge signal-generating circuit (PEQ in fig. 2) and an output of the detection signal (SA in fig. 8).

Tobita, LeChevalier-130 and Enami are analogous art because they are both from the same field of endeavor namely precharging control circuitry for flat panel displays.

At the time of the invention it would have been obvious to one of ordinary skill in the art to wire the circuitry of LeChevalier-130 and Enami as taught by Tobita.

The motivation for doing so would have been to the well-known benefit of reducing the amount of wiring thereby lessening manufacturing costs as well as simplifying circuitry.

With respect to claim 7, Enami, Tobita and LeChevalier-130 disclose the electro-optical device according to claim 1 (see above).

Enami further discloses, an electronic apparatus (col. 1, lines 7-21).

With respect to claim 12, Enami, Tobita and LeChevalier-130 disclose, the electro-optical device of claim 3 (see above).

Neither LeChevalier-130 nor Enami expressly disclose, wherein the test lines are shared with a precharge signal supply line.

Tobita discloses, wherein test lines (CL, CR in fig. 2; SA) are shared with a precharge signal supply line (CL, CR in fig. 2; PEQ).

Tobita, LeChevalier-130 and Enami are analogous art because they are both from the same field of endeavor namely precharging control circuitry for flat panel displays.

At the time of the invention it would have been obvious to one of ordinary skill in the art to wire the circuitry of LeChevalier-130 and Enami as taught by Tobita.

The motivation for doing so would have been to reduce the amount of wiring thereby lessening manufacturing costs as well as simplifying circuitry.

With respect to claims 18 and 20-22, Enami, Tobita and LeChevalier-130 disclose, the electro-optical device of claims 1, 3 and 5-6 (see above).

Enami, when combined with Tobita and LeChevalier-130, further discloses, wherein each shared line extends from at least the connection with the at least one data line at the first and second switches along one line to third switches (Tobita; 30-34 in fig. 2), wherein the third switches control the supply of the precharge signal from the precharge signal-generating circuit to the shared line (Tobita; 34 in fig. 2) and controls the output of the detection signal (Tobita; 30-33 in fig. 2).

5. Claims 2 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enami et al. (US 5,892,493) in view of Plus et al. (US 5,113,134) and further in view of Tobita et al. (US 7,006,067).

With respect to claim 2, Enami discloses, an electro-optical device (fig. 1), comprising:

a plurality of scanning lines (G1-Gn in fig. 1);

a plurality of data lines (d1A-dnD in fig. 1);

a plurality of pixel circuits (24, 18 in fig. 1) including a plurality of electro-optical elements (18 in fig. 1) provided to correspond to intersections of the plurality of scanning lines and the plurality of data lines;

a data line driving circuit (40 in fig. 1) to supply a data voltage through the data line to each of the pixel circuits (col. 8, lines 48-60);

first switches (42 in fig. 1) that are part of a precharge circuit to control the supply of precharge signals ($\pm V_1$ in fig. 1) from input signal lines (output line from switch 46 in fig. 1) connected to at least one data line of the plurality of data lines to the at least one data line, the precharge signal being less than a data voltage (col. 8, lines 24-33); and

a data line selection circuit to set the on or off state of the first switches (44 in fig. 1).

Enami does not expressly disclose, a set of switches for controlling the output of a test signal, or a data line selection circuit that sets the state of the switches.

Plus discloses, a set of switches (17) connected to at least one data line (12) of a plurality of data lines to control the output of a detection signal (col. 3, lines 12-33) from the at least one data line to input and output signal lines (18-x); and

a data line selection circuit (19) to set the on or off state of switches (17) that control the output of the detection signal (col. 3, lines 5-11; also note the orientation of the monitoring circuitry, opposite the data line scanner. This orientation is identical to the precharge circuitry of Enami).

Plus and Enami are analogous art because they are both from the same field of endeavor namely precharging control circuitry for flat panel displays.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the detection circuitry of Plus in the precharge circuitry of Enami.

Furthermore the placement of the circuitry in each piece of art would suggest to meld the two pieces of circuitry, detection and precharge, into a single piece of circuitry.

The motivation for doing so would have been a reliable, fast and inexpensive circuit to test for circuit flaws (Plus; col. 1, lines 37-46).

Neither Plus nor Enami expressly disclose, wherein the test lines are shared with a precharge signal supply line.

Tobita discloses, wherein test lines (CL and CR in fig. 2; SA) are shared with a precharge signal supply line (CL and Cr in fig. 2; PEQ) to form a shared line that extends at least from a connection with the at least one data line (DL1, DR1 in fig. 2) at the first switches (28-29, Ig1 in fig. 2) along one line toward a precharge signal-generating circuit (PEQ in fig. 2) and an output of the detection signal (SA in fig. 2).

Tobita, Plus and Enami are analogous art because they are both from the same field of endeavor namely precharging control circuitry for flat panel displays.

At the time of the invention it would have been obvious to one of ordinary skill in the art to wire the circuitry of Plus and Enami as taught by Tobita.

The motivation for doing so would have been for the well-known benefit of reducing the amount of wiring thereby lessening manufacturing costs as well as simplifying circuitry.

With respect to claim 19, Enami, Tobita and Plus disclose, the electro-optical device of claim 2 (see above).

Enami, when combined with Tobita and Plus, further discloses, wherein each shared line extends from at least the connection with the at least one data line at the first switches (Tobita; 28-29 in fig. 2) along one line (Tobita; CL, CR in fig. 2) to second switches (Tobita; 30-34 in fig. 2), wherein the second switches control the supply of the precharge signal from the precharge signal-generating circuit to the shared line (Tobita; 34 in fig. 2), and control an output of the test signal (Tobita; 30-33 in fig. 2).

6. Claims 9, 13, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enami et al. (US 5,892,493) in view of LeChevalier (US 6,594,130) and Tobita et al. (US 7,006,067) and further in view of Rutherford (US 6,861,810).

With respect to claims 9, 13, 15 and 17, Enami, Tobita and LeChevalier-130 disclose, the electro-optical device of claims 1, 3, 5 and 6 (see above).

Neither Enami, Tobita nor LeChevalier-130 expressly disclose, supplying at least three precharge signals, one each selected for red, green, and blue pixel circuits.

Rutherford discloses, supplying at least three precharge signals, one each selected for red, green, and blue pixel circuits (col. 6, lines 7-27).

Rutherford, Tobita, LeChevalier-130 and Enami are analogous art because they are both from the same field of endeavor namely precharging control circuitry for flat panel displays.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the at least three precharging signals of Rutherford in the display device of Enami, Tobita and LeChevalier-130.

The motivation for doing so would have been to ensure pixel white balance, thereby ensuring good display quality (Rutherford; col. 6, lines 7-27).

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enami et al. (US 5,892,493) in view of Plus et al. (US 5,113,134) and Tobita et al. (US 7,006,067) and further in view of Rutherford (US 6,861,810).

With respect to claim 11, Enami, Tobita and Plus disclose, the electro-optical device of claim 2 (see above).

Neither Enami, Tobita nor Plus expressly disclose, supplying at least three precharge signals, one each selected for red, green, and blue pixel circuits.

Rutherford discloses, supplying at least three precharge signals, one each selected for red, green, and blue pixel circuits (col. 6, lines 7-27).

Rutherford, Plus, Tobita and Enami are analogous art because they are both from the same field of endeavor namely precharging control circuitry for flat panel displays.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the at least three precharging signals of Rutherford in the display device of Enami, Tobita and Plus.

The motivation for doing so would have been to ensure pixel white balance, thereby ensuring good display quality (Rutherford; col. 6, lines 7-27).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM L. BODDIE whose telephone number is (571)272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/William L Boddie/
Examiner, Art Unit 2629
9/10/08

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